Appl. No. 10/646,617
Amdt. dated November 6, 2007
Reply to Office Action of May 29, 2007

PATENT

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (currently amended) A method for managing connections in a network comprising:

receiving a packet associated with a request for a protocol-based connection;

assigning the packet to a selected one of a plurality of classes;

forwarding the packet if the number of packets forwarded from the selected class in a predetermined time interval has not reached a first maximum count; and

dropping the packet if the number of packets forwarded from the selected class in the predetermined time interval has reached the first maximum count.

2. (original) The method of claim 1 wherein the first maximum count is adjustable to effectuate different rates of packet forwarding for the selected class.

3. (original) The method of claim 1 wherein the predetermined time interval is adjustable to effectuate different rates of packet forwarding for the selected class.

4. (original) The method of claim 1 wherein a counter associated with the selected class is used to determine whether number of packets forwarded from the selected class in the predetermined time interval has reached the first maximum count.

5. (original) The method of claim 4 wherein the counter is a count-down counter.

6. (original) The method of claim 1 wherein the packet is forwarded only if a count of active connection requests has not reached a second maximum limit.

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7. (currently amended) The method of claim 6 wherein the count of active connection requests is incremented when ~~a~~ the packet ~~associated with a request for a protocol-based connection~~ is forwarded from the selected class.

8. (currently amended) The method of claim 6 wherein the count of active connection requests is decremented when ~~a~~ the protocol-based connection is established.

9. (currently amended) The method of claim 6 wherein the count of active connection requests is decremented when ~~a~~ the protocol-based connection is terminated before being established.

10. (currently amended) The method of claim ~~1~~ 6 further comprising:
    after forwarding the packet, receiving an additional packet associated with the requested protocol-based connection;
    assigning the additional packet to a pass-through class; and
    forwarding the additional packet even if the first maximum count or the second maximum ~~count~~ limit has been reached.

11. (original) The method of claim 10 wherein the additional packet relates to status of the requested protocol-based connection.

12. (original) The method of claim 10 wherein the additional packet relates to termination of the requested protocol-based connection.

13. (original) The method of claim 1 wherein the protocol-based connection is based on a Point-to-Point Protocol (PPP).

14. (original) The method of claim 1 wherein the protocol-based connection is based on a Point-to-Point Protocol over Ethernet (PPPoE).

15. (original) The method of claim 1 wherein the protocol-based connection is based on a Layer Two Tunneling Protocol (L2TP).

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16. (original) The method of claim 1 wherein the protocol-based connection is based on a Dynamic Host Configuration Protocol (DHCP).

17. (currently amended) An apparatus for managing connections in a network comprising:

a control plane operable to process requests for protocol-based connection; and

a data plane ~~operable~~ operative to

receive a packet associated with a request for a protocol-based connection,

assign the packet to a selected one of a plurality of classes,

forward the packet to the control plane if the number of packets forwarded from the selected class in a predetermined time interval has not reached a first maximum count, and

drop the packet if the number of packets forwarded from the selected class in the predetermined time interval has reached the first maximum count.

18. (original) The apparatus of claim 17 wherein the first maximum count is adjustable to effectuate different rates of packet forwarding for the selected class.

19. (original) The apparatus of claim 17 wherein the predetermined time interval is adjustable to effectuate different rates of packet forwarding for the selected class.

20. (original) The apparatus of claim 17 wherein a counter associated with the selected class is used to determine whether number of packets forwarded from the selected class in the predetermined time interval has reached the first maximum count.

21. (original) The apparatus of claim 20 wherein the counter is a count-down counter.

22. (original) The apparatus of claim 17 wherein the packet is forwarded only if a count of active connection requests has not reached a second maximum limit.

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23. (currently amended) The apparatus of claim 22 wherein the count of active connection requests is incremented when a the packet associated with a request for a protocol-based connection is forwarded from the selected class.

24. (original) The apparatus of claim 22 wherein the count of active connection requests is decremented when a the protocol-based connection is established.

25. (currently amended) The apparatus of claim 22 wherein the count of active connection requests is decremented when a the protocol-based connection is terminated before being established.

26. (currently amended) The apparatus of claim 17 22 further comprising:

after forwarding the packet, receiving an additional packet associated with the requested protocol-based connection;

assigning the additional packet to a pass-through class; and

forwarding the additional packet even if the first maximum count or the second maximum count limit has been reached.

27. (original) The apparatus of claim 26 wherein the additional packet relates to status of the requested protocol-based connection.

28. (original) The apparatus of claim 26 wherein the additional packet relates to termination of the requested protocol-based connection.

29. (original) The apparatus of claim 17 wherein the protocol-based connection is based on a Point-to-Point Protocol (PPP).

30. (original) The apparatus of claim 17 wherein the protocol-based connection is based on a Point-to-Point Protocol over Ethernet (PPPoE).

31. (original) The apparatus of claim 17 wherein the protocol-based connection is based on a Layer Two Tunneling Protocol (L2TP).

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32. (original) The apparatus of claim 17 wherein the protocol-based connection is based on a Dynamic Host Configuration Protocol (DHCP).

33. (currently amended) A system for managing connections in a network comprising:

means for receiving a packet associated with a request for a protocol-based connection;

means for assigning the packet to a selected one of a plurality of classes;

means for forwarding the packet if the number of packets forwarded from the selected class in a predetermined time interval has not reached a first maximum count; and

means for dropping the packet if the number of packets forwarded from the selected class in the predetermined time interval has reached the first maximum count.